

Johnston County Natural Areas Inventory

BROGDEN BOTTOMLANDS

Site Number: 25

Site Significance: Regional

Ownership: Private

Size: about 1190 acres

Quadrangle: Four Oaks NE

SIGNIFICANT FEATURES: The site contains good examples of Coastal Plain brownwater river floodplain communities. Most the site consists of Coastal Plain Bottomland Hardwoods, but several good examples of the very rare Oxbow Lake community are present, in addition to a mature Coastal Plain Levee Forest, most of which have been severely impacted by logging along the Neuse River. The large size of the single tract provides habitat for a wide array of wildlife species such as migratory birds.

LANDSCAPE RELATIONSHIPS: The site lies on the north side of the floodplain opposite Howell Woods, near the midpoint of the Middle Neuse River Floodplain macrosite. The natural area is not contiguous with other natural areas on the north side of the river, being several miles downstream of the Cowbone Oxbows/Sage Pond Natural Area and several miles upstream of both the Riverside Church Bottomlands and the Richardson Bridge Bottomlands.

SITE DESCRIPTION: This natural area consists of a cross-section of the north side of the Middle Neuse River Macrosite, extending from the river bank to the base of the floodplain almost 1.5 miles from the river. The upper terrace of the river is mostly cleared land and pine stands, but the lower terrace of the floodplain contains mostly good-quality hardwood forest, with a few scattered croplands. Within this lower floodplain are features such as sloughs (abandoned river channels that contain water for much of the year but do not have open water), oxbows (abandoned channels that do contain water nearly all year and are open to sunlight), and depositional ridges and swales. Along the river, the land is slightly higher and forms a natural levee. Thus, the natural area contains more fluvial geomorphic landforms than any other identified natural area in the Middle Neuse River Macrosite.

The Bottomland Hardwoods are dominated by cherrybark oak (*Quercus pagoda*), overcup oak (*Q. lyrata*), swamp chestnut oak (*Q. michauxii*), willow oak (*Q. phellos*), sweetgum (*Liquidambar styraciflua*), and red maple (*Acer rubrum*). Closer to the natural levee, water hickory (*Carya aquatica*) becomes more numerous in the canopy. American hornbeam (*Carpinus caroliniana*) is the most common understory tree. The shrub layer is locally dominated by cane (*Arundinaria gigantea*), but mayberry (*Vaccinium elliotii*) is also numerous. Most herbs are grasses/sedges, such as the Watch List catchfly cutgrass (*Leersia lenticularis*). The locally scarce spreading erylgo (*Eryngium prostratum*) is present in the bottomland.

A large slough in the northern part of the floodplain contains Cypress-Gum Swamp vegetation, though cypress is actually scarce. Instead, the main canopy trees are red maple, swamp tupelo (*Nyssa biflora*), overcup oak, and swamp cottonwood (*Populus heterophylla*). The cane is quite dense in the slough.